SEPTEMBER 3.

Dr. BRIDGES in the chair.

Seventeen members present.

The following papers were presented for publication:—

"Catalogue and Synonymy of the Family Laseidæ." By GEO. W. TRYON, JR.

"Catalogue and Synonymy of the Family Galeommidæ." By GEO. W. TRYON, JR.

"Catalogue and Synonymy of the Family Leptonidæ." By GEO. W. TRYON, JR.

Remarks on the Habits of an Ant.—Prof. LEIDY remarked that in his recent visit to Fort Bridger, Wyoming, in many places he observed the nests or hills of an ant, which reminded him of a communication formerly made to the Academy by Mr. Lincecum, on the Agricultural Ant of Texas (1866, 323). The ant-hills consisted of conical piles of gravel from one to two feet in diameter and from six inches to a foot in height, occupying the centre of a bare, circular level several yards in diameter. The mode of formation and object of the circular space were not ascertained. Probably it was the accidental result of the insect feeding on all kinds of vegetation growing within a circumscribed limit. Mr. Lincecum described similar circles, or pavements as he calls them, and stated that the ants allow nothing to grow upon them excepting a certain grass, *Aristida stricta*, from which they collect the seeds when ripe.

SEPTEMBER 10.

The President, Dr. RUSCHENBERGER, in the chair.

Twenty-three members present.

The following paper was presented for publication:—

"On the Agency of Insects in obstructing Evolution." By THOS. MEEHAN.

Remarks on Mineral Springs, &c., of Wyoming and Utah.—Prof. LEIDY observed that, in his recent trip to Wyoming and Utah, he had had the opportunity of seeing a few of the mineral springs which are so numerous and varied in character, west of the Rocky Mountains.

In Pioneer Hollow, about fourteen miles west of Fort Bridger, and a couple of miles from the Union Pacific Railroad, there are about a dozen springs within the extent of a mile. These resemble the famous Saratoga Springs of New York. The waters are cool, slightly alkaline, of an agreeable taste, and highly impregnated with carbonic acid. The springs range from a foot to fifteen feet in diameter. Each forms a circular mound or crater from one to three or four feet in height composed of a ferruginous silicious sinter. The waters pour gently over the edge of the craters, which have been deposited very slowly during a long period of time, as the amount of silex in solution in the water is probably exceedingly small. Abundance of a green filamentous alga grows in the springs, apparently a species of oscillatoria. No animal forms were detected in them. The rocks contiguous to Pioneer hollow consist of reddish and yellow indurated clays and sandstones, in nearly horizontal strata. I detected no fossils in them, but suspect from their contiguity that they are of tertiary age.

About twenty-two miles from Fort Bridger, in the same direction as the former, there is an oil spring, the product of which resembles the so-called lubricating oil. Judge Carter is making the experiment of boring to render the spring more productive. The neighboring rocks are highly inclined, and probably are of cretaceous age.

A mile or two north of Salt Lake City there is a warm spring with which a sanitary establishment is connected. The water is strongly saline and is impregnated with sulphuretted hydrogen. Its temperature I found, with an ordinary thermometer, to be 98°. A mile or two further north, on the Utah Central Railroad, there is a similar spring with a higher temperature, which I found to be 128°. The water gushes forth abundantly from beneath a rock and forms a clear pond, with the bottom covered with a bright-green alga. This appears also to be an oscillatoria. Masses of it floating near the edge of the pond were white on the upper or exposed surface. This I suspected to be due to free sulphur, and indeed when the alga was exposed to the flame of a spirit-lamp it gave out an indistinct odor of sulphur, though the result was not so marked as I had anticipated. The water is strongly saline to the taste and is impregnated with sulphuretted hydrogen. No animals were detected in the water—not even microscopic forms. The waters of these springs finally pour into Salt Lake.

Salt Lake, as is well known, is remarkable, like the Dead Sea, for the concentrated condition of its briny water, due to the accumulation of the saline matters by the evaporation of the water which has no river outlet. The many salt springs which empty in the lake must have greatly contributed to the accumulation of the saline constituents. The water of the lake is intensely salt to the taste, and is said to contain a fifth of its weight of salt. This, as well as some other points, I have not been able to test, from my collections not yet having arrived. The much greater extent of the lake in former times is apparently confirmed by the ancient shore lines seen high up on the sides of the neighboring mountains. Two of these ancient shore lines, at different heights, preserve their horizontality and parallel character for miles along the base of the Wasatch Mountains, and form a quite conspicuous feature of the landscape of Salt Lake Valley. They reminded me of the view given in Lyell's Antiquity of Man, of the parallel roads of Glen Roy in Scotland. On ascending to these ledges, behind the position of Camp Douglas, I found that they were hardly recognizable, and the description of the roads just mentioned applies to them so closely that it may be suspected they may have had the same mode of origin. I was informed that similar ancient shore lines are visible on the sides of the mountain islands of the lake.

Salt Lake is usually considered to be destitute of animal and vegetable life. Through the kindness of General H. A. Morrow, in command of Camp Douglas, I was enabled to visit the southwest shore of the lake. I observed a number of water-birds on its surface, among which were gulls and teal, and on the shore I noticed several curlew. Other birds, especially pelicans, were said to be abundant. These birds lead me to suspect the existence of fishes in the lake, though none have yet been noticed. I observed no peculiar aquatic plants growing at the border of the lake, and indeed the part of the shore I visited was entirely destitute of vegetation within reach of the water. The shore swarmed with a small black fly, which from the vast quantities of larva skins lying near, I supposed to have been derived from the lake. Never before did I see such a vast accumulation of any one species of animal. The flies formed thick rows near the water's edge like windrows of hay, and the bushes bordering the shore were loaded with them in such a manner as to remind one of swarms of black aphides. In walking along shore they rose before you in dense black clouds. So far as I could discover, the gulls and curlews appeared to be feeding on them. The remarkable crustacean *Artemia salina* has been abundantly found in the lake, as before indicated in this Academy. (*Proc.* p. 164.)

I also observed floating at the edge of the lake and thrown on shore an abundance of an alga, apparently a species of Nostoc. It was in irregularly globular masses, from the size of mustard-seed to that of a large pea, and was of an olive-green color.

September 17.

Prof. **Frazer** in the chair.

Fifteen members present.